**Calculus 1**

**C1. Explain the components of calculus**

Derivative, antideriv, IVT, MVT, Continuity

Pg 79 27, 28, 37 (cont at 2), 43 (cont 0)

Pg 80 83, 84, 91 (use IVT on all)

**C2. Find the derivative using the definition of a derivative and interpret it!**

pg 104 5-9, 17, 19, 21

**C3. Find the limit of a function using a variety of methods: a table, graph, algebra**

Pg 54 1, 7, 9, 11, 15-23 odd, 25, 26, 29

Pg 79 17, 20

Pg 67 11-19 odd, 23, 27, 29, 37, 39

Pg 67 49-53 , 59, 60

Pg 68 91, 95 Use squeeze limit theorem

**C4. Evaluate infinite limits and find asymptotes**

Pg 88 37-43 odd

Pg 205 15, 19-26

Pg 205 27-31, 36

**C6. Graph and derive the derivative of a function (power, radical, rational, trig, exponential, logarithmic, inverse trig) (Prove trig derivatives)**

Worksheet

Prove derivatives

**C7. Find the derivative of a function using a variety power, sum, difference, product, and quotient rules**

pg 115 3-6, 11-18

Pg 115 19-22, 39-53 odd

pg 115 55-58

Pg 126 1-6, 39

Pg 126 7-12, 41-54

Pg 128 93-108

Pg 331 47-63 odd, 77, 83,

Pg 359 39-59 odd, 73

Pg 368 41, 42, 45, 51, 52

pg 379 43-47, 50 , 52

Pg 116 59-63 odd, pg 127 73, 75

**C8. Evaluate the derivative of a function using the chain rule**

Pg 137 7-16, 19-22, 67, 75

Pg 137 25-32, 45-47, 57, 79

http://kutasoftware.com/FreeWorksheets/CalcWorksheets/03%20-%20Chain%20Rule.pdf

**C9. Apply derivative to physics, economics, and other rates of change**

Pg 116 87, 89, 97,99

worksheet 1, 8, 14b, 18, 27, 28

**C10. Find a derivative using implicit differentiation**

Pg 146 1-4, 22, 34, 53, 54

Pg 146 5-11, 21, 45, 46

y=x^3x, y=(sinx)^x

**C11. Solve related rates problems**

Worksheet

pg 154 13, 14, 16-21, 25a

pg 155 29a, 31, 41, 43a, 44a

**C12. Find local and relative extrema, inc/dec intervals, concavity points**

Pg 169 11-16

Pg 169 17-26, 33, 35

Pg 186 17-24

Pg 186 25-30, 33-36

Pg 195 19-29 odd, 79

**C13. Graph using properties of functions**

Worksheet

Pg 215 23, 7, 9

Pg 215 17, 21

**C14. Solve optimization problems**

Pg 223 4, 9, 11, 21, 22

Pg 223 11, 17, 21-24, 33, 54

**C15. Apply Rolle’s Theorem and the MVT**

Pg 176 11, 15, 29, 31, 33, 39, 41, 59

**Calculus II**

**C16. Approximate the area under a curve using rectangles, trapezoids, and Simpson’s rule**

pg 269 58-62 (Do left, right endpoints and midpoints—make interval width 1)

pg 269 58-62 with trapezoids with width of 1

**C17. Find area under a curve using Riemann Sums**

ws 1, 11, 21-33 odd

pg 269 57-60

**C18. Find area under a curve by sketching and integral rules (overlaps a bit with C19 so do that homework too)**

Pg 255 15-26, 35-39

Pg 255 27-34, 39, 41, 42, 57-64, 71-74

Pg 278 13-15, 23-31 odd

pg 279 33-43 odd, 47, 48

Pg 295 81-85, 74

**C19. Evaluate definite integrals (using FTC) and indefinite integrals (including u-sub)**

See C18 homework

pg 293 5-21, 27, 28

pg 306 11-24, 47-53

Pg 307 67, 68, 75-78

Pg 340 31-33, 1-9 odd

Pg 360 99-107 odd, 117, 119

Pg 369 75-77

pg 387 1-3, 25, 26

**C20. Evaluate integrals using integrating by parts, trig integrals, and partial fractions**

Pg 533 7-10, 11, 16

Pg 533 27-30

Pg 542 5, 6, 8, 9, cos5xsin4x, sin5x,cos6x

worksheets

**C21. Find change, total change, and average value of functions**

Pg 293 37, 39, 97-102

Pg 293 51-57, 59, 60

**C22. Find area between two curves**

Pg 454 3, 6, 19-25 odd, 27, 29, 48

Pg 454 13, 31, 33

**C23. Find the volume for solids of revolution using the disk and shell methods**

Pg 465 1-3

Pg 465 7-10, 11, 12, 33, 34

pg 474 1-11 odd, 15, 23, 25, 29

**C24. Solve application problems related to physics, economics, and biology**

Worksheet

pg 568 1, 3-5, 11, 15

**C25. Apply topics to population growth (project)**

See handout

**C26. Extend classroom topics to new applications (take-homes)**